

FY 2011 NIH Priorities for Women's Health and Sex Differences Research

The mission of the Office of Research on Women's Health (ORWH) is to stimulate and encourage meritorious research on women's health, including the role of sex and gender in health and disease. Each year, the ORWH works with the NIH Coordinating Committee on Research on Women's Health (CCRWH), composed of representatives from the NIH institutes and centers, to consider continuing gaps in knowledge, and emerging scientific opportunities for current research priorities in women's health. The recommendations are reviewed and approved by the CCRWH and the Advisory Committee on Research on Women's Health (ACRWH). Based on the NIH strategic plan released in September 2010, entitled, *Moving Into the Future With New Dimensions and Strategies: A Vision for 2020 for Women's Health Research*¹, the FY 2011 NIH research priorities will focus on the key components highlighted within the strategic plan.

Research opportunities are described in terms of overarching themes, special emphasis areas, and areas of research interest. The priorities signify approaches and areas for which there is a need to stimulate and encourage research on women's health or sex differences research, and the advancement of women in biomedical research careers. These research priorities are not an exclusive list of research areas important to women's health; therefore other innovative or significant research areas should also be considered.

I. OVERARCHING THEMES

The following four overarching themes are important for addressing research on women's health: *Lifespan, Sex/Gender Determinants, Health Disparities/Differences and Diversity, and Interdisciplinary Research*.

Lifespan: The health of girls and women is affected by developmental, physiological, and psychological age. Women's lives are marked by a continuum from intrauterine life to the elderly years: infancy, childhood and adolescence, menarche, reproductive life, the menopausal transition, postmenopausal years, the elderly, and frail elderly. Many women's lives and health status are also influenced by factors such as work inside and outside the home, care-giving such as childcare and elder care responsibilities, reproductive status, marital status, and chronic illness. Each of these may influence health, disease, lifestyle and treatment choices, and response to therapy. Researchers should consider these variables in designing studies related to women's health.

Sex/Gender Determinants: Women and men are characterized by both sex and gender, as highlighted in the new strategic plan, *Moving Into the Future With New Dimensions and Strategies: A Vision for 2020 for Women's Health Research*, and the Institute of Medicine report, entitled *Exploring the Biological Contributions to Human Health: Does Sex Matter?* In this context, the term *sex* refers to being male or female according to reproductive organs and functions assigned by chromosomal complement. Sex factors that contribute to the biological differences include chromosomes, reproduction, and hormones. *Gender* refers to socially defined and derived expectations and roles rooted in biology and shaped by the environment and experience. Gender and sex are important considerations in many areas of research,

including basic biological, psychological, social, and behavioral studies. Consideration of these variables may be critical to the accurate interpretation and validation of research affecting the various aspects of women's health. These variables determine how health or disease processes may differ among women, or between men and women.

Health Disparities/Differences and Diversity: Women are disproportionately affected by some conditions and diseases in terms of incidence, diagnosis, course, and response to treatment. Some populations of women may be at higher risk for adverse disease outcomes because of factors such as: biology, genes, culture, education, effects of poverty, access to care, quality of care, and access to opportunities for inclusion as research subjects in clinical trials and studies. Thus, clinical research should include, but not be limited to, population-specific characteristics such as cultural diversity, environmental exposures, race/ethnicity, immigrant status, rural or inner city (urban) residency status, effects of poverty or low socioeconomic status, sexual orientation, and physical or mental disabilities.

Interdisciplinary Research: With increasing understanding of the inter-relatedness and complexity of disease, the nature of scientific investigation is shifting to an interdisciplinary, collaborative approach. Advances in women's health can be better achieved by promoting partnerships across disciplines. Interdisciplinary approaches can integrate knowledge from multiple specialties and disciplines, thus enhancing the likelihood of defining underlying pathologic processes. Collaborations among researchers in academia, private industry, and federal settings can provide access to the latest scientific tools and technologies and expertise for women's health research.

II. SPECIAL EMPHASIS AREAS

The NIH is especially interested in fostering women's health and sex differences research in the high priority areas outlined in the strategic plan, including:

- Advancing the understanding of sex differences research in health and disease, especially from the molecular level to clinical applications
- Emerging scientific fields and technologies that can provide unique opportunities to maximize women's health and sex differences research
- Fostering strategic partnerships and alliances to improve the translation and dissemination of health information, and public health outreach, in order to improve women's health and that of their families and communities

III. AREAS OF RESEARCH INTEREST

- **Goal 1** Increase sex differences research in basic science studies
- **Goal 2** Incorporate findings of sex/gender differences in the design and application of new technologies, medical devices, and therapeutic drugs
- **Goal 3** Actualize personalized prevention, diagnostics, and therapeutics for girls and women
- **Goal 4** Create strategic alliances and partnerships to maximize the domestic and global impact of women's health research

- **Goal 5** Develop and implement new communication and social networking technologies to increase understanding and appreciation of women's health and wellness research
- **Goal 6** Employ innovative strategies to build a well-trained, diverse, and vigorous health research workforce

During FY 2011, NIH will begin the implementation phase, working across the institutes and centers, for opportunities that are at a stage where action can be taken, or where critical resources are available to advance both women's health and sex differences research.

1- ¹ NIH Strategic Plan for Women's Health Research: *Moving Into The Future with New Dimensions and Strategies: A Vision For 2020 For Women's Health Research*

2- NIH Strategic Plan for Women's Health Research: *Moving Into The Future with New Dimensions and Strategies: A Vision For 2020 For Women's Health Research Vol II*

3- *Moving Into The Future with New Dimensions and Strategies: A Vision For 2020 For Women's Health Research Vol III*